

USSR

UDC: 533.9...16

AKULINA, D. K., NECHAYEV, Yu. I.

"Microwave Methods of Measuring Density and Plasma on the Stellarators at the Physics Institute imeni Lebedev"

Tr. Fiz. in-ta AN SSSR (Works of the Physics Institute, Academy of Sciences of the USSR), 1973, 65, pp 99-133 (from RZh-Fizika, No 6, Jun 73, abstract No 6G390)

Translation: This is a survey of microwave methods of measuring plasma density on stellarators at the Physics Institute imeni Lebedev. The authors describe the scheme of a microwave interferometer with electron phase shifting developed on the basis of a traveling-wave tube in the 3-cm band. Considered are resonator methods of measuring plasma density which use the metal chamber of the stellarator as a cavity with excitation of fundamental (10-cm) and high-frequency (3-mm) wave modes. The range of density measurement is $n = 10^8 - 10^{11} \text{ cm}^{-3}$. A Fabry-Perot microwave resonator with a wave band of 4 mm designed for measuring density at $n = 10 - 10^{13} \text{ cm}^{-3}$ is described. The authors discuss the question of the way that the magnetic field of the stellarator affects density measurement by resonator methods.

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2/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70
 CIRC ACCESSION NO--AP0116719
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PURPOSE OF THE PRESENT INVESTIGATION CONSISTED IN OBTAINING OPTIMUM COMPS. FOR FOAM GLASS AT A MAX. CONTENT IN THEM OF AL SUB2 O SUB3. SEVERAL COMPS. OF HIGH ALUMINA GLASSES WERE FOUND IN THE SiO SUB2-R SUB2 O SUB3 20-R SUB2 O SYSTEM. FOAM GLASS BASED ON GLASS COMPN. DESIGNATED 6H WAS FOUND TO BE BEST AS TO THE QUALITY AND THE TECH. PRODUCTION PARAMETERS. INCREASING THE AL SUB2 O SUB3 CONTENT IN THE GLASS TO 7.5PERCENT AND HIGHER RESULTED IN INCREASED FOAMING. FOR THE 6H COMPN. THE MAX. FOAMING TEMP. WAS 830DEGREES. ALL OF THE COMPS. TESTED ARE SUITABLE FOR THE PREPN. OF FOAM GLASS BY THE POWDER METHOD. THE PRINCIPAL ADVANTAGE OF THESE COMPS. IS THAT THEY REQUIRE LESS CALCINED SODA THAN THE COMPS. HERETOFORE USED. THEIR COM. USE THUS WILL NOT ONLY SOLVE SEVERAL TECH. PROBLEMS, BUT WILL BE MORE ECONOMICAL. FACILITY: MINSK. GOS. NAUCH. ISSLED. INST. STROIT. METER., MINSK, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECTIVENESS OF USING A NEPHELINE CONCENTRATE IN THE PRODUCTION OF
FOAM GLASS -U-
AUTHOR-(03)-AKULICH, S.S., DENIDOVICH, B.K., PILETSKIY, V.I.
COUNTRY OF INFO--USSR
SOURCE--STEKLO KERAM. 1970, 27(2), 18-20
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--FOAMED GLASS, ALUMINUM OXIDE GLASS, GLASS COMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1257 STEP NO--UR/0012/10/021/0013/0010
CIRC ACCESSION NO--AP0116719
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105597

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING RECENT YEARS THE AREA OF PRACTICAL APPLICATION OF CORUNDUM CRYSTALS HAS BEEN BROADENED CONSIDERABLY. THE EFFECT WAS STUDIED OF HEAT TREATMENT ON STRENGTH CHARACTERISTICS OF ARTICLES MADE FROM CORUNDUM CRYSTALS AND TREATED BY ABRASIVE MATERIAL. THE CIRCULAR FLEXURE METHOD WAS USED. THE STRENGTH DETN. WAS DONE FROM THE FRACTURE STRESS VALUE OF THE SAMPLES, AT ROOM TEMP. AND AT A DEFORMATION RATE OF 0.15MM-MIN. THE SAMPLES TESTED WERE GROWN IN FORM OF BOULES BY THE VERNEUIL METHOD. THE NORMAL TO THE SURFACE OF THE PLATES FORMED AN ANGLE OF 16DEGREES WITH THE MEAN VALUE OF 1120 DIRECTION. THE CR IMPURITY CONTENT IN THE AL SUB2 O SUB3 BATCH WAS 0.04 AT. PERCENT. IN ORDER TO REMOVE RESIDUAL STRESSES, THE SAMPLES WERE ANNEALED. THE INCREASE (2.5-3 TIMES) IN THE STRENGTH OF THE SAMPLES ACHIEVED AS A RESULT OF HEAT TREATMENT AT 1200DEGREES FOR 1 HR REMAINS UNCHANGED DURING THE SUBSEQUENT INCREASE IN THE ANNEALING TEMP. TESTS FURTHER SHOWED THAT INCREASING THE ANNEALING TIME 1-48 HR AT 1200-1700DEGREES DID NOT RESULT IN FURTHER INCREASE IN THE STRENGTH OF THE SAMPLES. THE RESULTS OBTAINED ARE INTERPRETED AS ELIMINATION OF THE EFFECT OF THE DEFECTS FORMING AT THE SURFACE OF THE SAMPLES DURING THEIR MECH. TREATMENT. THE RELATIVE HIGH SCATTER IN THE STRENGTH VALUES CAN BE EXPLAINED BOTH BY THE PRESENCE OF VARIOUS BULK DEFECTS IN THE SAMPLES AND BY THE DIFFERENCE IN THE DEGREE OF POLISHING OF THEIR SURFACES.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EFFECT OF HEAT TREATMENT ON THE STRENGTH OF MECHANICALLY TREATED
CORUNDUM CRYSTALS -U-
AUTHOR-(05)-AKULENOK, YE.M., BAGDASAROV, KH.S., GOVORKOV, V.G.,
KLASSENNEKLYODOVA, M.V., KHAIMOVMALKOV, V.YA. A
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 158-9
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--MECHANICAL STRENGTH, THERMAL EFFECT, CORUNDUM, ABRASIVE,
ALUMINUM OXIDE, CHROMIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0614 STEP NO--UP/0363/70/006/001/0158/0159
CIRC ACCESSION NO--AP0105597
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0109506

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF METABOLIC PRODUCTS AND BODY FLUID OF ASCARIS SUUM ON HYMENOLEPIS NANA IN WHITE MICE WAS STUDIED. PROLONGED INTRODUCTION OF THESE SUBSTANCES EVEN IN LARGE DOSES HAD NO EFFECT UPON INVASION OF MICE WITH H. NANA. THEREFORE, ANTAGONISTIC RELATIONS OBSERVED BY SOME INVESTIGATORS BETWEEN ASCARIDS AND H. NANA ARE DUE TO OTHER CAUSES ELUCIDATION OF WHICH REQUIRED FURTHER EXPERIMENTAL INVESTIGATION. FACILITY: LABORATORIYA BIOLOGII GEL'MINTOV I SPETSTIFCHESKOGO DEYSTVIYA PREPARATOV OTDELA MEDITSINSKOY GEL'MINTOLOGII INSTITUTA MEDITSINSKOY PARAZITOLOGII I TROPICHESKOY MEDITSINY IM. YE. I. MARTSINOVSKOGO MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSCOW.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ON THE PROBLEM OF ANTAGONISTIC RELATIONSHIPS BETWEEN ASCARIDS AND
H. NANA -U-
AUTHOR--AKUGINOVA, Z.D.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL
39, NR 2, PP 164-166
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--WHITE MOUSE, PARASITE, GASTROINTESTINAL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/1446 STEP NO--UR/0358/69/039/002/0164/0166
CIRC ACCESSION NO--AP0109506
UNCLASSIFIED

USSR

SHITSKOVA, A. P., Gigiyena i Sanitariya, No 12, 1972, pp 8-16

comprehensive, accurate health statistics was recognized in the 1920's and they are constantly being refined and improved as an indispensable basis for planning and taking effective action.

USSR

UDC 613(475)(091)

SHITSKOVA, A. P., AKSYUK, A. F., REYLIKHIS, G. A., GHOYEVAYA, V. L., GUSEV, H.I.,
ZHILIN, P. H., NOTKIN, Ye. L., PAL'TSEV, Ya. P., and YASETSOV, G. C.

"Coping With Current Health Problems in the RSFSR"

Moscow, Gigiyena i Sanitariya, No 12, 1972, pp 8-16

Abstract: Health problems were a major concern of the communist leaders after the revolution who swiftly organized agencies and services to deal with epidemics and famines. As these were brought under control, health officials became involved in city planning, design and building of houses, etc. The increasing tempo of industrialization led the authorities by the 1930's to study atmospheric pollution and the disposal of municipal and industrial sewage. Water pollution and suitable use of water resources were major interests by the 1940's. Following the war, industrial hygiene and occupational diseases along with food poisonings became the center of attention. In the 1960's research was focused on the problems created by the chemicalization of agriculture, the use of pesticides in particular. The effects of exposure to ultra-sound, radiation, microwaves, and other technological advances are now under study. Much stress is placed on preventive medicine, with special care of the up of the population, particularly children and adolescents. The importance of
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USSR

UDC 533.657.7.094.1.13

AKSYANTSEV, A. M.

"On the Stabilization of Angular Motion of a Space Vehicle"

Tr. Kazansk. aviats. in-ta (Works of Kazan' Aviation Institute), 1970,
No 99, pp 72-80 (from *RZh-Mekhanika*, No 5, May 70, Abstract No 5B342)

Translation: The problem of selecting the damping coefficient for pitching is solved from conditions for the asymptotic stability of orientation based on the local vertical of a space vehicle controlled by a damping moment which is linear relative to the angular rate of pitching. The motion of the vehicle in a low circular equatorial orbit is discussed. It is assumed that the effect of aerodynamic, magnetic, and radiation effects can be neglected, that the angular velocity in orbit is constant, that deviations from the plane of the orbit are negligibly small and that the angular deviations of the major axes of inertia of the vehicle from the axes of the orbital coordinate system and the rate of these deflections are small. The equations for perturbed angular motion include terms up to the third order of smallness. The results of a calculation for a space vehicle of ellipsoidal form are given. It is noted that the considerable effect of the damping coefficient leads to instability. 8 references. G. S. Aronin.

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Acc. Nr:

A
APC0036535

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,
pp 98-103

EFFECT OF HYDROPHOBIZATION ON THE THICKENING ABILITY OF
SILICA (AEROSIL AND SILICA GEL)

Sinitsyn, V. V.; Bakaleynikov, M. B.; Akshinskaya, N. V.;
Nikitin, Yu. S.

Summary

The aerosil and silica gel surfaces have been subjected to waterproofing treatment with n-butanol under different conditions. The thickening ability of untreated aerosil of different types: «175», «300» and «380» is approximately the same, regardless of its surface area determined with water and methanol. With increasing waterproofing degree, the thickening ability of aerosil diminishes. With the same waterproofing degree the thickening ability of aerosil subjected to the vapor-phase modification is higher than after treatment in an autoclave. The thickening ability of large-pored high-dispersed silica gel, both initial and modified, is much higher than for aerosil.

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19721383

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2/2 011

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113310

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GEOMETRIC MODIFICATION OF HIGH PURITY SILICA GEL PREPARED BY HYDROLYSIS OF TETRAETHOXY SILANE HAS BEEN CARRIED OUT UNDER VARYING HYDROTHERMAL TREATMENT CONDITIONS. IT HAS BEEN SHOWN POSSIBLE TO PREPARE SAMPLES WITH SURFACE AREA FROM 410 TO 1100 M²/G AND MEAN PORE SIZE FROM 90 TO 12500 ANGSTROM. THE RETENTION TIMES OF SPECIFICALLY ADSORBED AROMATIC HYDROCARBONS AND POLAR ORGANIC COMPOUNDS ON HIGH PURITY MACROPOROUS SILICA GEL ARE LESS AND THE CHROMATOGRAPHIC PEAKS OF THESE SUBSTANCES MORE SYMMETRICAL THAN FOR COMMERCIAL MACROPOROUS SILICA GEL OF SIMILAR GEOMETRIC STRUCTURE CONTAINING SESQUIOXIDES AS IMPURITIES.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PREPARATION AND EXAMINATION OF HIGH PURITY SILICA GEL FOR GAS
CHROMATOGRAPHY -U-
AUTHOR-(05)-AKSHINSKAYA, N.V., ZAYTSEVA, G.YE., KISELEV, A.V., NIKITIN,
YU.S., STRIZHKOV, B.V.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 160-165
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SILICA GEL, CHEMICAL PURITY, GAS CHROMATOGRAPHY, ORGANIC
SILANE, THERMAL EFFECT, GEOMETRIC FORM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0392 STEP NO--UR/0069/70/032/002/0160/0166
CIRC ACCESSION NO--APJ113310
UNCLASSIFIED

USSR

UDC: 621.396.69:621.372.412

AKSHIN, A. I., VINTOVKIN, S. I., TITOV, V. I., TOKAREV, G. A.

"Effect of Ionizing Radiation on the Piezoelectric Properties of Quartz Plates"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics of Nonmetallic Crystals--collection of works), Minsk, "Nauka i tekhn.", 1970, pp 220-229 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2V483)

Translation: An investigation was made of the change in fundamental piezo-electric properties of AT- and DT-cut quartz plates at room temperature over a broad frequency range (300 kHz-10 MHz) exposed to X-radiation ($E \approx 400$ kev), gamma radiation (Co-60), a stream of electrons with energies of 0.2-1.0 and 2 MeV, protons (6.3 MeV) and alpha particles (25 MeV). It is shown that X-rays and gamma rays have an identical effect on the one hand, as do electrons of various energies on the other hand in changing the natural frequency of AT-cut quartz plates at doses of $\sim 1 \cdot 10^5$ rad. Four illustrations, bibliography of one title. N. K.

USSR

UDC:629.78.002.3

GERASIMENKO, G. I., AKSHENTSEVA, A. P., ZHDANOV, V. D., MAKAROVA, L. S.

"Two-Layer Metal Type 3 Steel Plus N70M27F for Welded Apparatus Used in Highly Corrosive Media"

Sb. Nauch. Tr. Vses. N.-I. i Konstrukt. In-t Khim. Mashinostr. [Collected Scientific Works of All-Union Scientific Research and Design Institute for Chemical Machine Building], 1973, No 6, pp 15-17 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 10, 1973, Abstract No 10.41.156 from the resume)

Translation: A technology is developed for welding and pressure working of a two-layer metal consisting of type 3 steel plus N70M27F, and areas of its application are defined. An optimal heat-treatment mode is recommended and it is shown that heating to 700-850° C for 2-5 hours causes embrittlement of the cladding layer and reduces its corrosion resistance. 4 Figures; 2 Tables.

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USSR

UDC; 517.544

AKSENT'YEVA, Ye. P. (Kazan')

"Study of a Hilbert Type Nonlinear Boundary Value Problem" (Part II)

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy Matematika, No 6, 1970, pp 16-21

Abstract: This is a continuation of the author's previous work. In the current article, the author presents points 3, 4, and 5: point three is a study of a solution for various types of the Abelian integral, point four consists of criteria for polynomial isothermality, and point five is a presentation of solutions based on the author's results of Hilbert type nonlinear boundary value problems. The author expresses his gratitude to his supervisor, Professor L.I. Chibrikova, for advice and assistance. Original article: 16 formulas and two bibliographic entries.

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AVKHADIYEV, F. G., et al., Doklady Akademii Nauk SSSR, Vol 198, No 4, 1971, pp 743-746

condition

$$-p'(t) - p^2(t)/2 + 2q(t) = \{g, t\}. \quad (2)$$

Considering $w_0(t) = u_0(t) \exp \int [p(t)/2]dt$, we find that $w_0(t) \neq 0$ and $w_0(t_1) = w_0(t_2) = 0$. Therefore, investigation of the univalence of the function $g(t)$ reduces to investigation of the nonvariability of the solution of equation (1) with condition (2). Using equation (3), Nehari obtained the sufficient conditions of univalence expressed in terms of the Schwartzian. In this article simpler conditions are found which turn out to be convenient in applications.

When investigating the solvability of the basic inverse boundary value problems univalence conditions expressed in terms of the region of variation of the derivative of the mapping function are needed. In particular, the following problem arises. Let $m \leq |f'(z)| \leq M$ and $|\arg f'(z)| \leq \alpha$ for $|z| < 1$ or $|z| > 1$. The question is, for which α and $q = \ln (M/m)$ will the function $f(z)$ be univalent. Some restrictions on q and α which encompass the case of $\alpha > \pi/2$ not investigated earlier are indicated in the theorems proved.

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Functional Analysis

USSR

UDC 517.54

AVKHADIYEV, F. G., AKSENT'YEV, I. A.

"Sufficient Conditions for Univalence of Analytical Functions"

Moscow, Doklady Akademii Nauk SSSR, Vol 198, No 4, 1971, pp 743-746

Abstract: Let $g(t)$ be a function which is meromorphic in the domain D , and let $\{g, t\} = [g''(t)/g'(t)]' - [g''(t)/g'(t)]^2/2$ be a Schwartzian. Nehari [Bulletin of American Mathematical Society, Vol 55, No 6, 1949, page 545] proved the following: If the function $g(t)$ is multivalent that is, $g(t_1) = g(t_2)$ for certain t_1 and $t_2 \in D$, $t_1 \neq t_2$ then the nontrivial solution $u_0(t)$ is found for the equation

$$u''(t) + 1/2\{g, t\}u(t) = 0, \quad (K)$$

which vanishes at the same points t_1 and t_2 . Let $p(t)$ be regular in D . Setting $w(t) = u(t) \exp \int [p(t)/2]dt$,

$$w''(t) + p(t)w'(t) + q(t)w(t) = 0 \quad (I)$$

with the coefficients $p(t)$ and $q(t)$ which are regular in D and satisfy the

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2/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0129226
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABOUT 70PERCENT OF THE COASTLINE
OF THE NORTHWESTERN BLACK SEA ARE ABRASION SHORES WITH LANDSLIDES
RESULTING FROM WAVE DESTRUCTION OF THE NATURAL SUBMARINE SLOPE.
MORPHOLOGICALLY, THE COASTAL PART OF THE SUBMARINE SHORE SLOPE AND THE
SEA BOTTOM HAVE THREE MAJOR TYPES OF RIDGES ORIGINATING FROM THE
LANDSLIDES: RIDGE REMNANTS, COMPRESSION RIDGES AND SQUEEZE RIDGES. THE
DYNAMICS OF ALL THE THREE TYPES OF RIDGES WAS STUDIED ON A SERIES OF THE
PURPOSELY CHOSEN CROSS SECTIONS DURING MANY YEARS. THE OBTAINED DATA
SHOW THE DIRECTION AND RATES OF DISPLACEMENT OF THE RIDGES AND THEIR
ADJACENT LANDSLIDE BLOCKS. ESTIMATION IS GIVEN OF THE DRIFTS SUPPLIED
TO THE SHORE ZONE FROM EROSION OF THE RIDGES, AND THE ROLE OF THE LATTER
IN THE GENERAL BALANCE OF DRIFTS NEAR THE LANDSLIDE SHORE IS SHOWN.
FACILITY: ODESSKIY GOSUDARSTVENNYY UNIVERSITET IM. I. I. MECHNIKOVA.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--RIDGE RELIEF DYNAMICS OF THE SUBMARINE SHORE SLOPES OF THE
NORTHWESTERN BLACK SEA -U-
AUTHOR--AKSENTYEV, G.N. A

COUNTRY OF INFO--USSR, BLACK SEA

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 3, PP 448-456

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--COASTLINE, LANDSLIDE, SUBMARINE RIDGE, OCEAN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1866

STEP NO--UR/0213/70/010/003/0448/0456

CIRC ACCESSION NO--AP0129226

UNCLASSIFIED

USSR

UDC: 621.131.43+539.21.084-492.3

AKSENTYAN, G. K., GENIYEV, G. A.

"On Construction of a Two-Dimensional Wave Front in a Prestressed Rigid-Elastic-Plastic Medium"

Tr. TsNII stroit. konstruktsiy (Works of the Central Scientific Research Institute of Structural Elements), 1970, vyp. 13, pp 22-29 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7V666)

Translation: The authors consider propagation of the leading edge of two-dimensional waves in a pourable solid under conditions of plane deformation. The equation of the leading edge of the waves is presented for a half-plane acted on by a concentrated force and a dynamic load at the edge. This equation was solved by the method of separation of variables and the Cauchy method. A conclusion is drawn on curvature of the front as a consequence of the action of a concentrated force created by the prestressed state. N. A. Veklich.

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Acc. Nr: APC054282

Ref. Code: UR0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 2 ,
pp 184-189

STUDIES OF CONFORMATIONAL HETEROGENEITY OF NATIVE PROTEINS
BY PHOTOCHEMILUMINESCENCE METHOD

S. L. AKSENTSEV, G. D. NISENBAUM, S. V. KONEV, and I. M. OKUN'

Laboratory of Biophysics and Isotopes, Belorussian Academy
of Sciences, USSR, Minsk

The break points were revealed in the curves rate constant of decay--temperature at photochemiluminescence investigation of several proteins in solutions. These breaks are mainly due to the fact that the protein molecules at 5--40° exist in more than one native reversible conformational state. Investigation of influence of salt and propanol concentration on the photochemiluminescence parameters permits to suggest that the regions of protein molecules controlled by hydrophobic interactions are able to manifest gradual structural transitions rather than cooperative rearrangements.

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USSR

UDC 621.397:535.67

AKSENTOV, Yu. V., LYUBIMOV, Yu. G.

"Experimental Determination of the Spectral Weight Function of Fluctuation Noise of the Color Channel of the SECAM-III System"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute, Vyp. 3), Leningrad, 1970, pp 21-24 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract NO 8G105)

Translation: This article contains the results of experimental determination of the spectral weight function of fluctuation noise of the color channel of the SECAM-III system. The experimental procedure is discussed.

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USSR

UDC 621.397.62:535.67

AKSENTOV, Yu. V., USAMA CAAD ALI

"Effect of Inexact Separation of Color and Brightness Signals when Recoding Color Television Broadcast System Signals"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute. Vyp. 3), Leningrad, 1970, pp 60-65 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G106)

Translation: This article contains a study of the problem of the effect of the high-frequency components of the brightness signal occurring in the color channel during the process of signal conversion with realization of international exchange of color television programs on the image quality. Results of theoretical analysis are presented for certain of the most probable versions of conversion, and practical recommendations are made.

USSR

UDC 621.397:535.67

A
AKSENTOV, Yu. V., NAZARETSKIY, A. I., STRIGIN, V. A.

"Possibility of Applying a Comb Filter for Separating the Brightness Signal from the Complete SECAM Signal"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute Vyp. 3), Leningrad. 1970, pp 24-28 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G113)

Translation: This article contains a study of the possibility of separating brightness and color signals in the SECAM system on the basis of the spectral difference of these signals. Some requirements imposed on the signal separation device are determined. The results of experimental testing of this device are presented.

USSR

UDC 621.397:535.67

AKSENTOV, Yu. B., USAMA CAAD ALI

"Losses of Brightness of Color Details when Converting Signals for the NTSC, SECAM and PAL Systems"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute. Vyp. 3) Leningrad, 1970, pp 56-59 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G112)

Translation: This article contains an investigation of the problem of brightness losses when reproducing color details occurring on recoding of color information as applied to color television systems adopted for broadcasting. The comparative estimate of various versions of conversion and recommendations with respect to selecting optimal versions are presented.

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2/2 023

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125305

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL DEGRADATION OF (P,C SUB6 H SUB4 C SUB6 H SUB4 R,P) SUBM, (P,C SUB6 H SUB4 XC SUB6 H SUB4 R,P) SUBN (R IS PYROMELLITDIIMIDO AND X IS O, SO SUB2, CH SUB2, CHPH, OR 1,1,CYCLOHEXYLIENE), I, OR II (X IS AS ABOVE) GAVE VARIOUS AMTS. OF CO SUB2, CO, H SUB2 O, C SUB6 H SUB6, PHME, HCN, H, AND PHCN. THE ACTIVATION ENERGIES OF DEGRADATION WERE DETD. THE STABILITY OF THE POLYMERS DEPENDED BOTH ON THE NATURE OF X AND THE STRUCTURE OF THE LARGE AROMATIC FRAGMENTS. FACILITY: VSES. NAUCH.-ISSLED. INST. SIN. VOLOKON, KALININ, USSR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--MECHANISM OF THERMAL DEGRADATION OF AROMATIC POLYIMIDES OF
DIFFERENT CHEMICAL STRUCTURES -U-
AUTHOR--(04)-KRASNOV, YE.P., AKSENOVA, V.P., KHARKOV, S.N., BARANOVA, S.A.
COUNTRY OF INFO--USSR A
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 873-84
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--THERMAL DEGRADATION, POLYIMIDE RESIN, PYROMELLITIC ACID,
ACTIVATION ENERGY, MOLECULAR STRUCTURE, CHEMICAL COMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1684 STEP NO--UK/0459/70/012/004/0873/0884
CIRC ACCESSION NO--AP0125305
UNCLASSIFIED

USSR

AKSENOVA, V. M.

"Glycogen Synthesis From Different Glycogenic Precursors in the Livers of Intact and Carbon Tetrachloride-Treated Animals"

Tr. Perm. med. in-ta (Proceedings of the Perm Medical Institute), Vol 108, 1972, pp 85-88 (from Referativnyy Zhurnal -- Biologicheskaya Khimiya, No 5, 1973, Abstract No 5F2292)

Translation: For a period of 3 days male rats received subcutaneously 0.4ml/kg of CCl_4 daily, and were sacrificed on the 2nd, 7th, and 21st day after the last injection; 2 h before sacrifice the animals received intraperitoneally a 30% solution of glucose (I), α -galactose (II), l-arabinose (III), or 0.3 g/100 g of lactic acid (IV). Determination of hepatic glycogen (V) content showed that in the intact animals I and II constitute the best precursors for V, while 2-2.5 times less V is formed from II and IV. In CCl_4 -treated animals the synthesis of V from I-III is depressed during the entire period of the investigation (21 days), while synthesis of V from IV is initially depressed, but by day 8 reaches initial levels.

1/1

Burn Studies

USSR

UDC 616-001.17-06:616-001.36-07:616.153.96-074

MURAZYAN, R. I., Doctor of Medical Sciences, and ARSENOVA, O. V., Surgical Clinic, Central Institute of Hematology and Blood Transfusion, Ministry of Health USSR, Moscow

"Changes in Serum Proteins in the Shock Phase Following a Burn"

Moscow, Problemy Gematologii i Perelivaniya Krovi, No 5, 1971, pp 41-44

Abstract: The composition of serum proteins was studied by paper electrophoresis in burn victims (14 to 50 years of age and over 50) differing in area and degree. Total proteins decreased in direct proportion to the extent of the burn in all those with more than 10% of the body area affected. The decrease, mostly due to the albumins, was sharpest on the 3d day after the trauma. However, there was an increase in the α_1 and α_2 globulins, especially in those with burns covering more than 50% of the body surface. The magnitude of the changes was not age-related.

Materials

USSR

UDC: 621.396.69:621.319.4

AKSENOVA, L. A., MUDROLYUBOVA, L. P., TAVGENA, V. V.

"Effect of Some Technological Factors on the Quality of Stock for Monolithic Capacitors Made From a Ceramic Material Based on a CaTiO_3 - LaAlO_3 Solid Solution"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 2 (19) (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V286)

Translation: The paper deals with the conditions which ensure high quality of a pouring slip of ceramic material based on a CaTiO_3 - LaAlO_3 solid solution produced by the method of coprecipitation. An investigation is made into the effect which the degree of compaction during strip rolling and the pressure of tablet molding have on the quality of stock for monolithic capacitors made from this material. Authors' abstract.

USSR

UDC 621.793.5:669.718.65

AKSENOVA, E. V., SEREBRYAKOVA, I. B., ANAN'INA, L. A., and GANSH, T. N.

"Hot Aluminizing of Sheet Steel"

Moscow, Stal', No 9, Sep 70, pp 830-833

Abstract: A good aluminum plating with a thin brittle layer of inter-metallic compounds (Fe_2Al_5) may be produced by plunging low-carbon sheet steel into an aluminum melt containing 6-8% Si at temperatures of 700-710°C. Various methods of preparing the steel surface for aluminizing are discussed. A first processing in the regenerating atmosphere and elimination of the oxides by annealing in a hydronitric medium, provides a high-quality plating. Aluminizing improves the heat resistance of steel and greatly increases its corrosion resistance. Data of the corrosion resistance of low-carbon steel in various media are shown in comparison with the corrosion resistance of galvanized steel. The aluminum plating maintains a constant appearance with heating up to 500°C.

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USSR

AKSENOV, V. V., et al., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 826-827

room temperature in the photon energy range of 0.2-0.75 ev. The width of the forbidden zone of the vitreous material (according to electrical, optical and photoelectric measurement data) significantly exceeds the corresponding value for the crystal, which apparently indicates a change of short-range order. The width of the forbidden zone obtained from electrical measurement data exceeds the corresponding values obtained from optical and photoelectric measurements.

USSR

UDC 661.1:537.311.33

AKSENOV, V. V., PETROV, V. M., KHARAKHORIN, F. F., and YURUSHKIN, B.
1.

"Semiconductor Properties of CdGeAs_2 — CdSnAs_2 System Glasses"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 826-827

Abstract: The authors attempted to obtain crystalline and vitreous materials of the composition $\text{CdSn}_x\text{Ge}_{1-x}\text{As}_2$. The crystalline specimens were prepared by the Bridgman method. Only ternary compounds themselves could be obtained as single crystals. Specimens of mixed composition were polycrystalline. Vitrification takes place only in the interval $0 \leq x \leq 0.5$. The vitreousness and homogeneity of the specimens underwent metallographic and x-ray phase analyses. The temperature dependence of the electrical conductance of several vitreous specimens was determined, and the spectral distribution of the absorption coefficient of specimens 150-300 microns in width was measured at

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125084

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT WAS MADE TO PREP. CRYST. AND VITREOUS MATERIALS OF THE COMPN. CDSN SUBX GE SUB1-X AS SUB2. THE CRYST. SAMPLES WERE PREPD. BY THE BRIDGMAN METHOD. THE SAMPLES WERE POLYCRYST. FOR THE GIVEN GLASSES. VITRIFICATION OCCURS ONLY AT 0 SMALLER THAN OR EQUAL TO X SMALLER THAN OR EQUAL TO 0.5. THE TEMP. DEPENDENCE OF THE ELEC. COND. OF SEVERAL SAMPLES AND THE RESP. WIDTH OF THE FORBIDDEN BAND WERE DETD. GLASSES OF THE COMPN. X LARGER THAN OR EQUAL TO 0.20 WERE MEASURED ONLY TO 500DEGREEK, INASMUCH AS AT HIGHER TEMPS. THEY CRYSTD. DURING THE MEASUREMENTS, WHICH RESULTED IN A SHARP DECREASE IN THEIR ELEC. RESISTIVITY. SPECTRAL DISTRIBUTION OF THE ABSORPTION COEFF. FOR SAMPLES OF THICKNESS 150-300 MU WAS MEASURED AT ROOM TEMP. WITHIN THE PHOTON ENERGY RANGE 0.2-0.75 EV. THE SPECTRAL DISTRIBUTION CURVES FOR THE PHOTOCOND. AT ROOM TEMP. WERE DETD. AND FOUND TO BE RATHER DIFFUSE AT 0.5-2.5 MU. NO DIFFERENCE WAS OBSD. FOR SPECTRAL DISTRIBUTION OF PHOTOCOND. OF SAMPLES UNDOPED AND DOPED WITH 5 AT. PERCENT AU. A SLIGHT ADDNL. MAX. OF PHOTOCOND. AT SIMILAR TO 0.8 MU WAS OBSD., WHICH OBVIOUSLY MUST BE ATTRIBUTED TO THE PECULIARITIES IN THE BAND STRUCTURE OF THE MATERIAL. THE WIDTH OF THE FORBIDDEN BAND OF THE VITREOUS MATERIAL CDSN SUBX GE SUB1-X AS SUB2 (ON THE BASIS OF ELEC., OPTICAL, AND PHOTOELEC. MEASUREMENTS) CONSIDERABLY EXCEEDS THE CORRESPONDING VALUE FOR THE CRYSTAL, WHICH APPARENTLY ATTESTS TO A CHANGE IN THE SHORT RANGE ORDER. THE COMPN. DEPENDENCE OF THE WIDTH OF THE FORBIDDEN BAND HAS A MIN. NEAR X EQUALS 0.30.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SEMICONDUCTOR PROPERTIES OF CDGEAS SUB2-CDSNAS SUB2 SYSTEM GLASSES
-U-
AUTHOR--(04)-AKSENOV, V.V., PETROV, V.M., KHARAKHORIN, F.F., YURUSHKIN,
B.I.
COUNTRY OF INFO--USSR A
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. METER. 1970, 6(4), 826-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--SEMICONDUCTOR PROPERTY, ARSENIDE, CADMIUM COMPOUND, TIN
COMPOUND, GERMANIUM COMPOUND, PHOTOCONDUCTIVITY, FORBIDDEN BAND, GLASS,
DOPED ALLOY, GOLD, OPTIC PROPERTY, ELECTRIC PROPERTY, POLYCRYSTAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1453 STEP NO--UR/0363/70/006/004/0826/0827
CIRC ACCESSION NO--AP0125084
UNCLASSIFIED

Semiconductor Technology

USSR

UDC 546.48'28'181.1 : 600.1

AKSENOV, V. V., PETROV, V. M., and KHARAKHORIN, F. F.

"Semiconductor Properties of Vitreous CdSiAs₂"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 10, Oct 70, pp 1881-1882

Abstract: Experiments show that the vitrification of CdSiAs₂ in sufficient quantities for study requires much greater melt cooling rates than for CdGeAs₂. The vitreousness of the material was established visually, as well as from the absence of lines on X-ray patterns. The band gap of CdSiAs₂ is lower in the vitreous state (1.05 ev at 300° K) than in the crystalline state (1.62 ev at 80° K). The greater band gap of CdSiAs₂ glass than CdGeAs₂ (0.75 ev) or CdGeP₂ (0.9 ev) glass is in agreement with existing theories.

USSR

UDC 537.311.25

AKSENOV, V.V., LANTOV, F.A., MIYKOVA, O.R., KHARAKHONIN, P.F.

"Effect Of Nuclear Penetrating Radiation On The Semiconductor Compounds
 $A^{II} B^V C_2^V$ In Crystalline And Vitreous States"

V sb. Radiats. fiz. nemet. kristallov (Radiation Physics Of Nonmetallic Crystals-
Collection Of Works), Vol 3, Part 2, Kiev, "Nauk.dumka," 1971, pp 91-97 (from
RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10535)

Translation: The effect was studied of radiation on the semiconductor com-
pounds $A^{II} B^V C_2^V$ in crystalline and vitreous states. Neutron and γ -radiation
has practically no effect on vitreous specimens; in crystals, however, of $CdGeAs_2$,
 As_2Se_3 and other semiconductors they give rise to irreversible changes of the
values of the resistivity and the mobility of the carriers. 2 ill. 2 ref. 1.V.

USSR

TOCHINSKIY, YE.G., et al, Dokl. Nauchno-tekhn konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg., Mosk. energ. in-t, 1970, Sekts. elektron. tekhn. Podseks. elektron. priborov, 1969, pp 149-156 (from RZh-Radiotekhnika, No 2, Feb 70, Abstract No 2A310)

quency conversion and an additional variable frequency generator to provide the required phase change law. The second technique is based on the fact that in the summation of two harmonic signals of different frequencies the relative change of their amplitudes leads to a phase change of the over-all signal. Rational selection of the initial phase difference (0, 120 and 240°) of the three summed signals and corresponding variation of their amplitudes provides a summed signal with phase varying by 360° and nearly constant amplitude. L.K.

2/2

- 33 -

USSR

A UDC 621.317.77

TOCHINSKIY, YE.G., POPOV, I.S., AKSENOV, V.P.

"Some Techniques for Obtaining a Controllable Phase Shift Between Two or More Signals"

Dokl. Nauchno-tekhn konferentsii po itogam nauchno-issled, rabot za 1968-1969 gg., Mosk. energ. in-t, 1970, Sekts. elektron. tekhn. Podseks. elektron. priborov (Reports of the Scientific-Engineering Conference on Advances in Scientific-Engineering Studies in 1968-1969, Moscow Energetics Institute, 1970, Electronic Technology Section. Electronic Instruments Subsection), Moscow, 1969, pp 149-156 (from RZh-Radiotekhnika, No 2, Feb 70, Abstract No 2A310)

Translation: The first technique is a development of the so-called frequency method, based on the signal phase change with passage through an artificial delay line. The required phase change is obtained by varying the frequency. However the technique is suitable only for quite high frequencies and in practice is applicable for frequencies of several hundred kHz. A modification of the method is proposed suitable for low frequencies, with double frequency.

SPR 59068

C 73

4

VI-40. CHARACTERISTIC STRUCTURAL DEFECTS IN DIAMOND

[Article by Ye. V. Sobolev, O. P. Yur'yeva, V. Ye. Il'in, V. K. Aksekov, Novosibirsk, Novosibirsk, III Sibirskiy po Prirodam Kola 1, 1977, p. 74].
 Poluprovodnikovyyh Kristallov I. Plensk. Kuznitsa, 12-17 June, 1977, p. 74]

A study was made of the role of the characteristic structural defects in the properties of a diamond. It is demonstrated that a vacancy in a diamond is stable in three charged states; here the effectiveness V^+ in the absorption is 29 times greater than V^0 . It is established that the dislocations (with the edge component) define the nature of the x-ray and cathode luminescence of the diamond and the color (violet and smoky-brown) of the plastically deformed specimens. For the dislocation spectra in contrast to the point centers, broad structureless bands are characteristic which are related to the transitions between the dislocation zones. Nitrogen centers forming the admixture atmosphere of the dislocations were recorded (by electron paramagnetic resonance and luminescence). It was demonstrated that the spectrum of the interaction of the dislocations with the plugs (N_2 [100]) defines the plastic properties of the diamond. A study was made of the possible role of the dislocations in the formation of the acceptor levels determining the properties of type IIc at low (less than $3 \times 10^{16}/\text{cm}^3$) donor concentrations (N_2 in natural and N in synthetic diamonds).

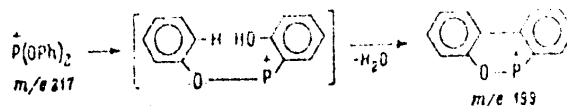
Structure	Absorption, A	Luminescence, A	Electron paramagnetic resonance	Remarks
V^-	3934		active (80°K)	For $V^0 E = 7.8$ eV under x. conv.
V^0	7414 $\lambda < 4200$	7414	inactive	Converts to V^- and V^+ on heating and irradiation (ultraviolet).
V^+		5750	active	$p-n$ $\Delta V = \Delta V^- + \Delta V^+$. Capacity for ionization depends on the type of crystal. Mobile at 580°C.

AKSEKOV, V. K.

USSR

BOCHKAREV, V. N., et al., Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, pp 2348

9-phospha-10-oxa-9,10-dihydrophenanthrenyl cation.



The spectrum of (I) also showed the rearrangement peaks of ions with m/e 170 (PhOPh^+) 70%, m/e 153 (PhC_6H_4^+) 12%, and m/e 94 (PhOH^+) 20%. When the ionizing voltage in the mass spectrum of (I) reached 15 volts, the relative intensity of ions with m/e 310, 217, 77, 199, 170, 153, and 94 amounted to 47, 100, 2, 2, 4, 5, and 15%, respectively. In other words, the intensity of the rearranged ions decreased sharply.

2/2

USSR

UDC 547.26'118

BOCHKAREV, V. N., POLIVANOV, A. N., BUGERENKO, YE. F., AKSENOV, V. I., and
CHERNYSHEV, YE. A.

"Mass-Spectrometric Fragmentation of Triphenyl Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, pp 2348

Abstract: When $P(OPh)_3$ was subjected to electron bombardment, using mass-spectrometer MKh-1303 at $250^\circ C$, with an ionizing potential of 30, an interesting rearrangement took place. The mass-spectrum of $P(OPh)_3$ showed an intensive peak (10%) of an ion with m/e 199 ($M-OPh-H_2O$)⁺ along with peaks M^+ (m/e 310, 21%), $(M-1)^+$ (m/e 309, 10%), $(M-OPh)^+$ (m/e 217, 100%), Ph^+ (m/e 77, 27%).

Transitions $310^+ \rightarrow 217^+ \rightarrow 199^+$ were verified by the presence of corresponding metastable peaks. It is assumed that an ion with m/e 199 is formed in the following way: at first the diphenoxyphosphinyl cation with m/e 217 rearranges into the isomeric o-hydroxyphenylphenoxyphosphinyl cation, followed by ortho linking of two aromatic rings that leads to the formation of

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USSR

UDC 621.317.799:538.569.4

AKVILONOVA, A. B., GORELIK, A. K., KALASHNIKOV, V. V., KRYLOVA,
M. S., KUTUZA B. G., KUKHARSKAYA, N. F., MITNIK, L. M., PUZANOV,
V. A., and PROLOV, Yu. A.

"Measuring the Full Absorption in a Cloudless Atmosphere in the
0.55-0.59 Range"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.
(Tenth All-Union Conference on the Propagation of Radio Waves;
Report Theses--collection of works) "Nauka," 1972, pp 8-11 (from
RZh--Radiotekhnika, No 10, 1972, Abstract No 10A422)

Translation: Experimental data is given on the full absorption of
radio waves in a cloudless atmosphere in the 0.55-0.59 cm range,
with simultaneous recording of vertical profiles for temperature,
pressure, and humidity at the observation point. Resume

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USSR

UDC 539.216.2

AKULININ, S.A., YERASHOV, A.N., SHCHEVELEV, M.I.

"To The Problem Of The Mechanism Of The Low-Frequency Dispersion Of The Dielectrical Characteristics Of Thin Amorphous Films"

Sb. tr. po poluprovodnikovym materialam, priboram i ikh primeneniyu (Collection Of Works On Semiconductor Materials, Devices, And Their Applications), Voronezh, 1971, pp 22-29 (from RZh:Elektronika i yeye primeneniye, No 11, Nov 1972, Abstract No 11B199)

Translation: The proposed model explains the observed linear dependence between $C^{-1} (\log f)$ and $R_0 (f^{-1})$, where C is the capacitance; R_0 is the leakage resistance of a capacitor with an amorphous dielectric; f is the frequency, and also the independence of the dielectric losses from the frequency. The model is based on an assumption concerning the random character of the distribution of the volume resistance in an oxide dielectric film which has an amorphous structure and the exponential character of the barriers between the individual fluctuations of the density. The respective analytical expressions for C and R_0 are obtained, and the curves are plotted of the calculated dependence of normalized resistance, capacitance, and the dielectric loss tangent. The model is applicable to oxide ion dielectrics with an amorphous structure. 3 ill. 5 ref. V.k.

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USSR

UDC 621.371.029.4

AKSENOV, V. I. and NAZAROVA, M. V.

"Investigating the Interference Structure of Ultra-Long Wave Radio Fields in the Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 119-123 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A371)

Translation: This paper is devoted to a theoretical analysis of the spatial structure for the field of a grounded ultra-long wave transmitter in the ionosphere resulting from interfering radiation incident on the lower boundary of the ionosphere. The results of the computations are compared with the experimental data obtained by the artificial earth satellite "Kosmos-259". Resume

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USSR

UDC 621.371.029.4

AKSENOV, V. I. and NAZAROVA, M. V.

"Theoretical Investigation of the Passage of Ultra-Long Waves
Through the Lower Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 114-118 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A370)

Translation: An algorithm proposed earlier by the authors for computing the fields in a plane-layer anisotropic plasma is used for investigating the angular, frequency, latitude, and azimuthal dependences of the transmission coefficient of ultra-long waves (1-100 kHz) through the lower ionosphere. Two illustrations, bibliography of two. N. S.

2/2 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124583

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW AND IMPROVED METHOD OF PICKLING TRANSFORMER STEEL WHICH ELIMINATES SI DEPOSITS IS DESCRIBED. THE METAL IS TREATED IN AN HF-H SUB2 SO SUB4 MIXTURE FOR 10-20 MIN AT 55-60DEGREESC. THIS PROCESS ENTIRELY ELIMINATES THE LOSS OF METAL PREVIOUSLY SUFFERED AS A RESULT OF THE DEPOSITS AND IMPROVES THE OUTPUT OF THE METAL FINISHING DEPARTMENTS AS A WHOLE. POSSIBLE FURTHER REFINEMENTS TO THE PROCESS ARE CONSIDERED.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INTENSIFICATION OF THE PICKLING OF TRANSFORMER STEEL --U-
AUTHOR--(04)--AKSENOV, V.I., SEREBRYAKOV, G.V., MESYANEV, YU.R., KAPLAN,
N.I. *A*
COUNTRY OF INFO--USSR
SOURCE--METALLURG, MAR. 1970, (3), 30
DATE PUBLISHED----MAR70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--TRANSFORMER STEEL, PICKLING, METAL CLEANING, HYDROFLUORIC
ACID, SULFURIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0922 STEP NO--UR/0130/70/000/003/0030/0030
CIRC ACCESSION NO--AP0124583
UNCLASSIFIED

3/3 041

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139504

ABSTRACT/EXTRACT--3) THE ACTIVE RESISTANCE OF THE ANTENNA DEPENDS ESSENTIALLY ON THE PARAMETERS OF THE IONOSPHERIC PLASMA AND IS A MINIMUM IN THE REGION OF MAXIMUM ELECTRON CONCENTRATION; ITS VALUES INCREASES WHEN THE ORIENTATION OF THE DIPOLE AXIS IS CLOSE TO THE DIRECTION OF THE EARTH'S MAGNETIC FIELD. 4) THE EFFECTIVE LENGTH OF THE ANTENNA DEPENDS ONLY SLIGHTLY ON ITS ORIENTATION, FREQUENCY AND THE PARAMETERS OF THE IONOSPHERIC PLASMA, AND CAN BE CONSIDERED APPROXIMATELY EQUAL TO HALF THE GEOMETRIC LENGTH OF THE DIPOLE. THE AUTHORS LIST 4 REFERENCES IN ENGLISH AS MOST RELEVANT TO THE THEORETICAL CONSIDERATIONS INVOLVED: BRAMELY, PLANETARY AND SPACE SCIENCE, NO. 9, 1962; BALMAIN, I.E.E.E. TRANSACTIONS ON ANTENNAS AND PROPAGATION, AP-12, 5, 1964; KAISER, PLANETARY AND SPACE SCIENCE, NO. 9, 1962, AND MLODNOSKY AND GARRIOT, PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON THE IONOSPHERE, 1963. ALTHOUGH THE AUTHORS CONSIDER THE ASSUMPTION IN THE LAST WORK THAT THE CAPACITANCE OF A DIPOLE IS DETERMINED EXCLUSIVELY BY THE CAPACITANCE OF THE ION SCREEN BE INSUFFICIENTLY GROUNDED. THE ARTICLE INCLUDES 9 CHARTS, 8 OF WHICH SHOW CAPACITANCE, ACTIVE RESISTANCE AND EFFECTIVE LENGTH AS A FUNCTION OF ALTITUDE, ANTENNA LENGTH AND FREQUENCY.

UNCLASSIFIED

2/3 · 041

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139504

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM CONSIDERED IN THIS ARTICLE IS THE EFFECT OF THE IONOSPHERE ON ANTENNAS IN THE FORM OF A CYLINDER, PLACED IN THE IONOSPHERE BY ROCKETS OR SATELITES. TWO QUANTITIES ARE CONSIDERED, THE CAPACITANCE AND THE EFFECTIVE LENGTH OF THE ANTENNA. IN CALCULATING THE CAPACITANCE OF THE ANTENNA, THE AUTHORS DISTINGUISH TWO COMPONENTS: THE CAPACITANCE OF THE ION SCREEN AROUND THE ANTENNA AND THE DIPOLE PLUS THE THICKNESS OF THE ION SCREEN. THEY ALSO DETERMINE THE INPUT RESISTANCE OF THE ANTENNA, ON THE BASIS OF ITS CAPACITANCE. AN EXPRESSION FOR THE EFFECTIVE LENGTH OF THE ANTENNA IS GIVEN, UTILIZING THE FORMULAS DERIVED FOR CAPACITANCE AND ASSUMING THAT THE AMPLITUDE OF THE VOLTAGE ALONG THE ANTENNA DOES NOT CHANGE. THE AUTHORS PERFORMED COMPUTER SIMULATIONS ON THE BESM-2 COMPUTER, USING A MODEL ATMOSPHERE WHOSE CHARACTERISTICS ARE DESCRIBED IN THE ARTICLE. ON THE BASIS OF THIS STIMULATION, COVERING ALTITUDES FROM 200-1,000 KM AND FREQUENCIES FROM 1-100 KILOHERTZ, THEY REACHED THE FOLLOWING CONCLUSIONS: 1) THE CAPACITANCE OF A DIPOLE AT THE ALTITUDES STUDIED IS CONSIDERABLY HIGHER THAN ITS CAPACITANCE IN OUTER SPACE, THE DIFFERENCE BEING DETERMINED PRIMARILY BY THE ION SCREEN WHICH FORMS AROUND IT. 2) THE CAPACITANCE OF THE ANTENNA IS APPROXIMATELY PROPORTIONAL TO ITS LENGTH AND RADIUS AND DEPENDS ONLY SLIGHTLY ON FREQUENCY AND THE ORIENTATION OF THE ANTENNA WITH RESPECT TO THE EARTH'S MAGNETIC FIELD.

UNCLASSIFIED

1/3 041 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ON THE EFFECT OF AN ION SCREEN ON THE CHARACTERISTICS OF AN
ULTRALOW FREQUENCY RANGE ELECTRICAL DIPOLE PLACED IN A MAGNETICALLY
AUTHOR-(02)-AKSENOV, V.I., LISHIN, I.V.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, VOL. 15, NO. 4, APRIL 1970,
PP. 677-684
DATE PUBLISHED----APR70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., ATMOSPHERIC SCIENCES

TOPIC TAGS--IONOSPHERE, ANTENNA, ATMOSPHERIC MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605003/B11 STEP NO--UR/0109/70/015/004/0677/0684

CIRC ACCESSION NO--AP0139504

UNCLASSIFIED

USSR

AKSENOV, V. I., et al, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 677-684

1964; Kaiser, Planetary and Space Science, No. 9, 1962; and Hodnosky and Garriot, Proceedings of the International Conference on the Ionosphere, 1963. Although the authors consider the assumption in the last work that the capacitance of a dipole is determined exclusively by the capacitance of the ion screen be insufficiently grounded.

The article includes 9 charts, 8 of which show capacitance, active resistance and effective length as a function of altitude, antenna length and frequency.

USSR

AKSENOV, V. I., et al, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 677-684

- 1) The capacitance of a dipole at the altitudes studied is considerably higher than its capacitance in outer space, the difference being determined primarily by the ion screen which forms around it.
- 2) The capacitance of the antenna is approximately proportional to its length and radius and depends only slightly on frequency and the orientation of the antenna with respect to the Earth's magnetic field.
- 3) The active resistance of the antenna depends essentially on the parameters of the ionospheric plasma and is a minimum in the region of maximum electron concentration; its values increases when the orientation of the dipole axis is close to the direction of the Earth's magnetic field.

4) The effective length of the antenna depends only slightly on its orientation, frequency and the parameters of the ionospheric plasma, and can be considered approximately equal to half the geometric length of the dipole.

The authors list 4 references in English as most relevant to the theoretical considerations involved: Bramley, Planetary and Space Science, No. 9, 1962; Balmain, I.E.E.E. Transactions on Antennas and Propagation, AP-12, 5,

2/3

USSR

UDC 621.396.674.3.001.5

AKSENOV, V. I. and LISHIN, I. V., Academy of Sciences of the USSR in Moscow

"On the Effect of an Ion Screen on the Characteristics of an Ultralow Frequency Range Electrical Dipole Placed in a Magnetically Active Ionospheric Plasma"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 677-684

Abstract: The problem considered in this article is the effect of the ionosphere on antennas in the form of a cylinder, placed in the ionosphere by rockets or satellites. Two quantities are considered, the capacitance and the effective length of the antenna.

In calculating the capacitance of the antenna, the authors distinguish two components: the capacitance of the ion screen around the antenna and the capacitance of an imaginary antenna with a radius equal to the radius of the dipole plus the thickness of the ion screen. They also determine the input resistance of the antenna, on the basis of its capacitance.

An expression for the effective length of the antenna is given, utilizing the formulas derived for capacitance and assuming that the amplitude of the voltage along the antenna does not change.

The authors performed computer simulations on the BESM-2 computer, using a model atmosphere whose characteristics are described in the article. On the basis of this stimulation, covering altitudes from 200-1,000 km and frequencies from 1-100 kilohertz, they reached the following conclusions:

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USSR

CHERNYSHEV, Ye. A., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289095, division C, filed 9 Oct 69, published 8 Dec 70, p 77

where Z is O or S are heated in the gas phase with subsequent isolation of the goal product by conventional methods. 2. A modification of this method distinguished by the fact that the process is carried out at a temperature of 500-600°C. 3. A modification of this method distinguished by the fact that the process is carried out in such a way that the initial product is in the reaction zone for 10-100 seconds.

2/2

USSR

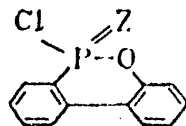
UDC 547.677.2'26.118.07

CHERNYSHEV, Ye. A., BUGERENKO, Ye. F., and AKSENOV, V. I.

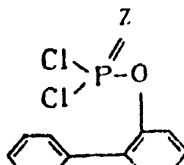
"A Method of Making Derivatives of 9-Chloro-9-phospha-10-oxa-9,10-dihydro-phenanthrene"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289095, division C, filed 9 Oct 69, published 8 Dec 70, p 77

Translation: This Author's Certificate introduces: 1. A method of making derivatives of 9-chloro-9-phospha-10-oxa-9,10-dihydrophenanthrene of the general formula



where Z is O or S. As a distinguishing feature of the patent, compounds of the general formula



USSR

UDC 547.26'118

AKSENOV, V. I., CHERNYSHEV, Ye. A., BUGERENKO, Ye. F., and BORISENKO, A. A.

"Thione-Thiol Isomerization of o-Phenyl Dichlorothiophosphate in the Gas Phase"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71, pp 484-485

Abstract: In an investigation of thione-thiol isomerization, o-phenyl dichlorothiophosphate (I) was passed through a quartz tube at 550° at a rate assuring the passage of the vapor through the tube within 40 sec. from the condensed product obtained the following compounds were isolated: PCl_3 , POCl_3 , PSCl_3 , phenyl dichlorophosphate, starting material, S-phenyl dichlorothiophosphate, and additional six high-boiling compounds which were not identified. Thus the thionethiol isomerization was shown to take place; due to highly labile S-P bond, however, many side reactions accompany the isomerization.

USSR

UDC 547.622+547.736+547.536

CHERNYSHEV, E. A., BUGERENKO, E. F., AKSENOV, V. I.

"Conversions of O-2-Biphenyl Dichlorothiophosphate in the Gas Phase"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, p 1423

Abstract: It was observed that on passing O-2-biphenyl dichlorothiophosphate ($2-C_6H_5C_6H_4OP(S)Cl_2$) in the gas phase at high temperatures through a quartz tube 90% of the material was transformed into cyclic products, namely dibenzothiophene and 10-chloro-10-thio-10-phospha-9-oxa-9,10-dihydrophenanthrene. The latter is presumably formed by intramolecular cyclization, whereas the former is formed possibly as a result of a thione-thiol isomerization.

1/1

USSR

UDC 547.558.1

CHERNYSHEV, Ye. A., BYGERENKO, Ye. F., and AKSENOV, V. I.,

"Organophosphorus Heterocyclic Compounds. I. Pyrolytic Cyclization of o-Biphenyloxydichlorophosphine in Gas Phase"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 800-804

Abstract: Passing vapors of o-biphenyloxydichlorophosphine (I) through a quartz tube at 550-600° forms 9-chloro-9-phosphafluorene (III) and 10-chloro-10-oxy-10-phospha-9-oxa-9,10-dihydrophenanthrene (IV) instead of the expected 10-chloro-10-phospha-9-oxa-9,10-dihydrophenanthrene (II). In addition to (I), (III), and (IV), the condensate also contained PCl_3 and traces of biphenyl, o-chlorobiphenyl, and dibenzofurane, the last three compounds forming probably due to disproportionation of the substituents on the phosphorus atom. When (I) was diluted 10 fold with benzene no (III) or (IV) formation was observed. Specially prepared (II) was found to be stable under above pyrolytic conditions, yielding no (III) or (IV); it could not be considered an intermediate product.

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USSR

AKSENOV, V. I., and NAZAROVA, M. V., Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1113-1119

where $\alpha = e^2 / \pi m f_H F$; e , m are the charge and mass of an electron; f is the wave frequency. The solutions of the wave equation, which are expressed in terms of Whittaker functions, are analyzed. The resultant formulas define the coefficients of transmission and reflection of a plane electromagnetic wave incident on the layer from above or from below. The frequency dependence of these coefficients is studied for the case of longitudinal propagation of ultralong waves in a plane laminar magnetically active ionospheric plasma (angle between the wave vector and the external magnetic field equal to zero with exponential profiles $N(z)$ and $\nu(z)$). The proposed model of the lower ionosphere is close to reality and has never been previously studied. If information is available on the change in electron concentration over a 24-hour period, the results found in this paper can be used to determine the diurnal variation in the coefficients of transmission and reflection of ultralong waves in the ionosphere. The formulas derived can also be used to find the electron concentration profile when the coefficients of transmission (or reflection) are known on several frequencies in the ultralong wave band.

2/2

USSR

UDC 538.576.454.001.572

AKSENOV, V. I., and NAZAROVA, M. V.

"Coefficients of Reflection and Transmission of Ultralong Waves in a Model of the Lower Ionosphere With Exponential Profiles of V and v "

Moscow, Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1113-1119

Abstract: Coefficients of transmission and reflection are found for an ionospheric model of the form

$$v(z) = 2\pi f_n \exp\{p - qz\}; \quad f_n = \text{const};$$

$$N(z) = N_0[1 + \exp 2(qz - p)],$$

where v is the effective number of collisions, f_H is the gyrofrequency of an electron, and N is electron concentration. The problem reduces to solving the equation

$$\frac{d^2 F}{dz^2} + k^2 e(z) F = 0.$$

for a layer of the form

$$e(z) = 1 \pm a N_0 [e^{2(qz-p)} \mp l e^{qz-p}].$$

1/2

USSR

UDC 547.558.1

CHERNYSHEV, YE. A., AKSENOV, V. I., PONOMAREV, V. V., GOLUBTSOV, S. A., BUGER-ENKO, YE. F.

"Organophosphorus Heterocyclic Compounds. III. Synthesis and Conversions of 10-chloro-10-phospha-9-oxa-9,10-dihydrophenanthrene"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 93-96

Abstract: The method of intramolecular ring formation was used on o-xenyloxy-dichlorophosphine in the liquid phase in the presence of $AlCl_3$ to obtain 10-chloro-10-phospha-9-oxa-9,10-dihydrophenanthrene. The chemical conversions of 10-chloro-10-phospha-9-oxa-9,10-dihydrophenanthrene take place both with conservation of the tricyclic structure (hydrolysis, addition of sulfur, methoxylation) and with splitting of the ring containing the P-O bond (Grignard methylation). Some physical characteristics, the percentage yield and formulas are tabulated and the experimental procedures for synthesis are presented for the mentioned compounds.

USSR

CHERNYSHEV, YE. A., et al, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2189-2192

the pyrolysis of IV can proceed by breaking of P-O bond with formation of o-hydroxybiphenyl. In the reactions with various reagents, e.g., Grignard reagents, lithium aluminum hydride, the compounds I and II were converted into three-membered fused heterocyclic or open-chain compounds via breaking of P-O bond of the heterocycle, depending on the nature of the substituent at the P atom. The experimental procedures are described.

2/2

USSR

UDC 547.558

CHERNYSHEV, YE. A., AKSENOV, V. I., BUGENKO, YE. F.

"Organophosphorus Heterocyclic Compounds. 2. Synthesis and Conversions of 10-Chloro- and 10-(2-Biphenyloxy)-10-Oxo-10-Phospha-9-Oxa-9,10-Dihydrophenanthrene"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971,
pp 2189-2192

Abstract: A mixture of two heterocyclic (P,P-chloroxo-9-oxa-10-phospha-9,10-dihydrophenanthrene (I) and P,P-(2'-biphenyloxy)oxo-9-oxa-10-phospha-9,10-dihydrophenanthrene (II)) was prepared by gas phase pyrolysis, at 585 and 600°, of 2'-biphenyl dichlorophosphate (III) and bis-(2'-biphenyl) chlorophosphate (IV), respectively. The total yield of I and II was 42 percent and 75 percent of theoretical in cyclization of III and IV, respectively. Intramolecular cyclization of III and IV to I and II proceeds by breaking of the P-Cl bond with formation of HCl. Formation of II in the pyrolysis of III is explained by intermediate disproportionation of III to IV and POCl₃ and formation of I in

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USSR

CHERNYSHEV, YE. A., et al., Zhurnal Obshchey Khimii, Vol 42(104), No 7,
Jul 72, p 1648

which is assumed to be the common reaction for aryl dichlorophosphites
under the given conditions.

2/2

- 34 -

• USSR

AKSENOV, V. I., NAZAROVA, M. V., Radiotekhnika i elektronika, Vol. 17, No. 7, July 1972, pp. 1333-1334

of solution used in this paper can be used for study of the propagation of electromagnetic waves in any plane-stratified anisotropic media. For this it is impossible to use more simple approximation methods. The authors thank M. G. Gerasimov and I. V. Lishin for discussion of the work. 7 fig. 14 references. 21 refs., 23 June 1971.

USSR

UDC 621.372.6.01:517.95

ARSENOV, V.I., and BLOKH, I.V.

"Numerical Solution Of The Problem Of Transmission Of Very-High-Frequency
Electromagnetic Waves Through The Lower Atmosphere"

Radiotekhnika i elektronika, Vol XVII, No 7, July 1972, pp 1111-1116

Abstract: The paper is concerned with the development of an algorithm and a program of numerical integration of a system of equations describing the propagation of electromagnetic waves in a plane-stratified magnetoionic medium. The polarization, the angle of incidence of the wave, and the orientation of the external magnetic field are arbitrary. The algorithm is an algorithm of integration of a system of field equations with the use of a table of the variation of the solution and detection of its continuity. The method of calculation developed is used for an analysis of the peculiarities (not previously investigated in other works) of the transmission of very-high-frequency (VHF) electromagnetic waves through the lower atmosphere. The paper describes a procedure in the VLF band to determine the matrix of the coefficients of reflection, the components of the wave fields at any level in the lower atmosphere, the value of the transmission coefficient, and the vector direction of the energy flow. It is shown

1/p

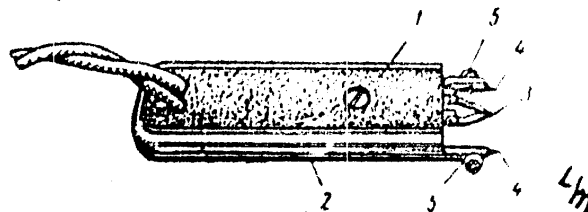
AA-0028078

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 10/69 183297

AIRSCREWS. In order to protect the tips of the helicopter lifting screw blades from abrasion, they are covered with sheet rubber. The blades are perforated with holes as a protection from icing, but to locate these from under the rubber cover is very difficult. On the other hand boring through the rubber is dangerous as it is likely to damage the blades. As an alternative it is suggested in this invention, that the holes are to be burned out by means of a device consisting of a housing 1 in which are fitted a burner holder 2, electric welding needle 3 with a high specific resistance, needle supports 4 and holders 5.

30.6.64 as 908728/40-23 V.E. AKSENOV (9.6.69)
Bul. 13/17.6.66. Class 21b, 62e, Int. Cl. H 05b,
B 64d.



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ILLEGIBLE

U53A

Doc 616.921.5-056.22(476.51)-150.-1.57"

AKHIEZER, V. I., GELFAND, R. N., SHILOVSKIY, D. I., and YAKOVLEV, A. A.,
AKHIEZER, V. I., VOLKOVICH, A. D., GELFAND, R. N., SHILOVSKIY, D. I.,
ZAKHAROV, I. M., and YEVSTIGHNEV, R. N., Institute of Virology
Imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Ministry
of Health USSR.

"Some Features of the 1966-1967 Influenza Epidemic in the U.S."

Moscow: Izv. Vsesoyuzn. nauchn. ts. Virusologii, No. 1, 1970, pp. 17-18.

Abstract: This epidemic occurred in two waves: the first in November-December, 1956, when few cases of influenza or other acute respiratory diseases were reported in most of the USSR, and in the two adjacent regions of Moscow, and the second in February, 1957. The first wave affected mostly young children, while the second wave affected children and adults to almost the same degree, with a mortality of 100 per cent. The course of the disease was severe among children, but relatively mild among adults. The high incidence of influenza in the first wave, characteristic dynamics of the curve with a sharp rise, quick attainment of a peak, and sharp drop, as well as the results of serological examinations, implicated the H₂ virus as the cause.

2/2 023

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103743

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EPIDEMIC OF INFLUENZA WITH A TWO WAVE COURSE WAS OBSERVED IN THE TOWN OF GLAZOV. THE OUTBREAK WAS DEVELOPING AGAINST THE BACKGROUND OF FAVOURABLE CONDITIONS WITH REGARD TO INFLUENZA IN THE SURROUNDING TERRITORY, A FEW WEEKS BEFORE THE ONSET OF INFLUENZA EPIDEMIC IN THE USSR. THE FIRST WAVE OF THE EPIDEMIC WAS REGISTERED IN NOVEMBER DECEMBER 1966, THE SECOND IN FEBRUARY 1967. THE FIRST WAVE INVOLVED PREDOMINANTLY CHILDREN IN KINDERGARTENS AND SCHOOL CHILDREN, IN THE SECOND WAVE THE MORBIDITY OF INFLUENZA WAS RELATIVELY UNIFORMLY DISTRIBUTED BETWEEN ADULT AND CHILD CONTINGENTS. A RISE OF ANTIBODY TO INFLUENZA A SUB2 VIRUS WAS OBSERVED IN THE SERA OF PATIENTS IN THE FIRST WAVE OF THE EPIDEMIC. A STRAIN OF INFLUENZA VIRUS WAS ISOLATED MORPHOLOGICALLY AND SEROLOGICALLY CONSIDERED TO BE AN ATYPICAL A SUB1 STRAIN WITH ALTERED ANTIGENIC STRUCTURE. THE STRAIN HAD NO EPIDEMIC SPREAD.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SOME FEATURES OF INFLUENZA EPIDEMIC IN THE TOWN OF GLAZOV -U-
AUTHOR--AKSENOV, V.A., ORLOVA, N.N., SELIDOVKIN, D.A., ARSENOV, L.A.,
ZORIN, V.S.
COUNTRY OF INFO--USSR A
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 1, PP 97-101
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EPIDEMIOLOGY, INFLUENZA, BLOOD SERUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1987/0063 STEP NO--UR/0402/70/000/001/0007/0101
CIRC ACCESSION NO--AP0103743
UNCLASSIFIED

USSR

AKSENOV, V. A., et al, Farmakologiya i Toksikologiya, Vol 33, No 6, Nov/Dec 70, pp 726-733

and 0.5% ointment, respectively. The 0.25% ointment was as effective as the 0.5% ointment. The effectiveness coefficient was the same for children 1-3 years and 4-7 years old, a fact which indicated that oxoline produces a barrier effect, preventing entrance of the infection into the organism through the nasal mucosa, and is not resorbed into the blood. Prophylactic treatment with oxoline alleviated the clinical course of influenza when infection did occur and shortened the duration of the disease.

USSR

UDC 615.281.5.035.4:616.988.75-036.8

AKSENOV, V. A., SELIDOVKIN, D. A., GLADKIKH, G. N., GRAKHOVA, A. G., BOGDANOVA, N. S., and PERSHIN, G. N., Ministry of Health USSR, and All Union Scientific Research Chemicopharmaceutical Institute imeni S. Ordzhonikidze, Moscow

"Evaluation of the Prophylactic Effectiveness of the New Soviet Antiviral Agent Oxoline During the 1969 Influenza Epidemic"

Moscow, Farmakologiya i Toksikologiya, Vol 33, No 6, Nov/Dec 70, pp 726-733

Abstract: Oxoline, a polyox compound of the naphthalene series, is a virucidal drug with selective activity against influenza virus and a local action. It is effective in the treatment of virus infections of the eyes and skin, and relieves the symptoms of influenza in patients on application in the nasal and pharyngeal cavities. Its effectiveness as an influenza preventive was studied during the 1969 epidemic caused by the A2 virus. Tests were carried out on 9,600 children 1-7 years old in two cities. Oxoline was applied twice a day for 25 days on the mucosa of the nose in the form of an 0.25-0.5% vaseline ointment, using 0.3-0.5 g ointment per child per day. The coefficient of effectiveness in preventing influenza was 1.7, corresponding to a reduction of the incidence of influenza by 43% over the controls. The frequency of side effects was 0.6 and 0.9% for the 0.25 and 1/2

Therapy

USSR

UDC 615.281.8.035.4:616.988.75-053.4-036.8

AKSENOV, V. A., SELIDOVSKIN, D. A., GLADKIKH, G. N., KUBLIKOV, V. S., KUZNETSOVA, O. V., MOLODISOVA, L. D., BENSENEVA, R. A., AKSENOV, L. A., BOGDANOVA, N. S., and PERSHIN, G. N., All Union Chemico-Pharmaceutical Institute imeni S. Ordzhonikidze, Ministry of Health USSR

"Study of the Prophylactic Value of the New Soviet Antiviral Preparation Oxolin in Preschool Children during the 1969 Influenza Epidemic"

Moscow, Pediatriya, No 5, 1970, pp 18-22

Abstract: The viricidal agent oxolin (tetraoxotetrahydronaphthalene (dihydrate)) is effective in the treatment of adenovirus kerato-conjunctivitis, herpetic keratitis, dermatitides of virus etiology, and some acute respiratory diseases. In a double-blind trial, oxolin was administered to 4,170 children one to seven years of age in an unidentified Soviet city during the 1969 influenza epidemic. (It was applied to the nasal mucosa in the form of a 0.25% ointment on a vaseline base twice daily for 40-49 days). Oxolin reduced the incidence of influenza 1.7 times (43%) compared with control children. Severe forms of the disease and complications were 1.1-1.4 times more frequent in the latter than in those who received the preparation, and the course of the disease was 1.2 days longer on the average. The use of oxolin produced side effects in only 0.6% of the cases.

1/1

2/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0106234
ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. A SYSTEM IS DESCRIBED FOR
CORRECTION OF THE BASE LINE WITH AN ACCURACY OF PLUS OR MINUS 2 TIMES 10
PRIME NEGATIVE4 FOR HIGH SENSITIVITY DIFFERENTIAL DUAL BEAM
SPECTROPHOTOMETER. THE SYSTEM USES THE RECORD OF THE BASE LINE ON AN
AUXILIARY RECORDER, ITS REPRODUCTION WITH THE AID OF A FOLLOW UP SYSTEM
LEASED ON PHOTODIODES, AND THE RECORD OF THE DIFFERENTIAL CURVE WITH
SEQUENTIAL SWITCHING ON OF SLIDE WIRES OF 2 TAPE RECORDERS, ONE
REPRODUCING THE BASE LINE, THE OTHER RECORDING THE DIFFERENCE SPECTRUM.
THE INITIAL BASE LINE IN THE 500-600 NM SPECTRUM SECTOR IS SHOWN DURING
RECORDING OF THE ABSORPTION SPECTRUM FROM A 2.6 TIMES 10 PRIME NEGATIVE7
M SOLN. OF CYTOCHROME C. THE SENSITIVITY OF THE APP. EQUALS 1.7 TIMES
10 PRIME NEGATIVE3 UNITS OF ABSORBANCE PER ONE SCALE DIVISION.
FACILITY: BIOL.-POCHV. FAK., MUSK. GOS. UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SYSTEM FOR BASE LINE CORRECTIONS DURING THE RECORDING OF
DIFFERENTIAL SPECTRA -U-
AUTHOR-(03)-AKSENOV, S.I., VERKHOTUROV, V.N., KOZHUKHAR, YU.N.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 184-5

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPECTROPHOTOMETER, SPECTRAL LINE, ERROR CORRECTION, ABSORPTION
SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1478

STEP NO--UR/0120/70/001/000/0184/0185

CIRC ACCESSION NO--AP0106234

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0123181
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE PROCEDURE AND RESULTS ARE
GIVEN FOR DETERMINING CERTAIN AUTOMOBILE PARAMETERS: ANGLE OF
TRANSVERSE STATIC STABILITY, UPPER COORDINATE OF THE CENTER OF GRAVITY,
ANGULAR RIGIDITY OF THE CARRYING SYSTEM (FRAME), AND SUSPENSION. THIS
WAS DONE USING A SPECIAL TILTING STAND.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EXPERIMENTAL DETERMINATION OF CERTAIN AUTOMOBILE PARAMETERS ON A
TILTING STAND -U-
AUTHOR--(03)-AKSENOV, P.V., NIKANDROV, V.S., SERGEYEV, V.N.
COUNTRY OF INFO--USSR A
SOURCE--MOSCOW, AVTOMOBIL'NAYA PROMYSHLENNOST', NO 2, 1970, PP 29-31
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, METHODS AND EQUIPMENT
TOPIC TAGS--AUTOMOBILE, PARAMETER, TEST STAND

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1217 STEP NO--UR/0113/70/000/002/0029/0051
CIRC ACCESSION NO--AP0123181
UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0105591
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. X IRRADN. AND ABSORPTION SPECTRAL
DATA ON KCL-TL CRYSTALS, CONTG. 0.1 MOLE PERCENT TL, WERE OBTAINED AT
LIQ. N TEMP. THE KINETICS OF COLOR CENTER ACCUMULATION (F, V SUBK, TL
AND TL PRIME POSITIVE POSITIVE CENTERS) AT 77DEGREES K AND THE ESTN. OF
THE HOLE ENERGY DISTRIBUTION IN THE V SUBK AND TL PRIME POSITIVE
POSITIVE CENTERS ARE DISCUSSED. THE ENERGY LIMIT, E SUBM EQUALS 0.054
EV (600DEGREES K), AT WHICH HOLES CAN BE AUTOLOCALIZED CAN BE
INTERPRETED AS THE DEPTH OF A POTENTIAL WELL CORRESPONDING TO AN ANIONIC
POINT IN A REGULAR HOLE LATTICE.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ROLE OF COULOMB INTERACTION IN THE RADIATIVE CREATION OF COLOR
CENTERS IN THALLIUM ACTIVATED POTASSIUM CHLORIDE -U-
AUTHOR-(03)-ALUKER, E., AKSENOV, O.E., ROMANENKO, N.L.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. TEH. ZINAT. SER 1970, (1)
78-83

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--OPTIC PROPERTY, POTASSIUM CHLORIDE, X RAY IRRADIATION,
ABSORPTION SPECTRUM, THALLIUM, REACTION KINETICS, HOLE MOBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0608

STEP NO--UR/0371/70/000/001/0078/0083

CIRC ACCESSION NO--AP0105591

UNCLASSIFIED

USSR

UDC 576.858.5.095/.097

KOVALEVA, T. P., YURLOVA, T. I., BOLDASOV, V. K., LYSOV, V. V., RUDENKO, L. G., AKSENOV, O. A., and SEMIVANOV, A. A., All Union Scientific Research Institute of Influenza, Ministry of Health USSR, Leningrad

"Biological Properties of Two Strains of Adenovirus Serotype 4"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 700-703

Abstract: A comparative study of normal and attenuated strains of adenovirus serotype 4 revealed a number of significant differences.. While at the optimum culture growth temperature of 37°C, both strains reproduce at the same rate, at 28°C the attenuated strain proliferates much faster and at 40°C much slower than the parent strain. While both strains are almost equally sensitive to human leukocytic interferon, the attenuated strain is significantly more sensitive to nonspecific thermostable inhibitors, and has a much higher interferon-stimulating and interference activity and a much lower cytotoxic activity. After experimental inoculation of human subjects, both strains cause a rapid, fourfold increase in serum antibody concentration. However, the disease induced by the attenuated strain is considerably less severe and of shorter duration than that induced by the parent strain.

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2/2 016

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103734

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BOVINE LYMPHOCYTIC AND MONOCYTIC CELL CULTURES PRODUCED AFTER INOCULATION WITH NDV MUCH MORE INTERFERON THAN "PURE" CULTURES OF POLYNUCLEAR LEUCOCYTES. THE YIELD OF INTERFERON DEPENDED DIRECTLY UPON THE AMOUNT OF LYMPHOCYTES AND MONOCYTES IN THE CULTURE, INDICATING THE PREDOMINANT ROLE OF THESE CELLS IN INTERFERON PRODUCTION. INTERFERON PRODUCTION DETECTED IN THE "PURE" POLYNUCLEAR LEUCOCYTE CULTURES WAS DUE TO 10PERCENT CONTAMINATION OF THESE CULTURES WITH CELLS OF RETICULO ENDOTHELIAL SYSTEM LYMPHOCYTES AND MONOCYTES. THE MAIN INTERFERON PRODUCTION WAS SHOWN TO BE COMPLETED WITHIN THE FIRST 24 HOURS AFTER INOCULATION. THE RATE OF INTERFERON PRODUCTION DEPENDED ON THE NUMBER OF CELLS IN CULTURE, INCUBATION TEMPERATURE, INDUCER VIRUS DOSE, PH OF THE MEDIUM, AND THE AGE OF HOST ANIMAL.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--ON THE NATURE OF INTERFERON PRODUCING CELLS -U-
AUTHOR--RUDENKO, V.I., SMORODINTSEV, A.A., AKSENOV, O.A., LYABINA, L.M.
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USSR

UDC 576.643.045.044

RUDENKO, V. N., SHKROBISHCHY, M. A., ARKHAROV, G. M., et al.,
L. N., All-Union Scientific Influenza Research Institute, Ministry
of Health USSR

"The Nature of Interferon-Producing Cells"

Moscow, Voprosy Virologii, No 1, 1970, pp 32-41

Abstract: The capacity of bovine macrophages to produce interferon in vitro after inoculation with Newcastle disease virus was studied. Macrophages produced much more interferon than cultures consisting mostly of polymorpho nuclear leukocytes. Amount of interferon produced was directly related to the number of macrophages in the culture, an indication that these cells play an active part in the production of the protein. Interferon produced in the polymorpho nuclear leukocyte culture was much less than the abundance of L20 cells. Interferon production peaked within 1-3 hours after introduction of Newcastle disease virus, falling after 6 hours, and ceasing completely after 24-36 hours. The rate of interferon production varied with the number of cells, dose of inoculation, incubation temperature, dose of reinducer virus, and age of animals from which the lymphocytes and monocytes were isolated.

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USSR

UDC 576.858.5.06:576.858.5.097.39].083.1

SELIVANOV, A. A., LYSOV, V. V., YURLOVA, T. I., and ~~AKSENET, O. A.~~, All-Union Scientific Research Influenza Institute, Ministry of Health USSR, Leningrad

"A Comparison of Two Methods of Titrating Adenoviruses"

Moscow, Voprosy Virusologii, No 5, 1971, pp 600-603

Abstract: While there is a linear relationship between the titer of adenovirus and incubation time, the ambiguity of the results makes it difficult to compare the strain properties of the agent. Experiments with adenoviruses serotypes 1 and 2 adapted in different degrees to low incubation temperatures in guinea pig kidney tissue culture showed that such comparison can be conveniently made by approximating the titer-incubation time relationship from the sum of the least squares. The accurately reproducible results of the approximation, the regression coefficient of cytopathogenic and cytotoxic activities, correlate with other biological properties and can be used as markers to differentiate adenovirus variants of the same serotype.

USSR

UDC 576.858.5.095.383

SELIVANOV, A. A., KOVALEVA, T. P., AKSENOV, O. A., YURLOVA, T. I., LYSOV, V. V., KRYLOV, V. A., and SMORODINTSEV, A. A., All-Union Scientific Research Institute of Influenza, Ministry of Health USSR, Leningrad

"Anti-Interference Effect of Adenoviruses"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 574-577

Abstract: Crude adenoviruses, serotype 1, 4, and 7 adenoviruses heated to 56°C for 30 min, and purified pentone antigen of serotype 4 suppress induction of interferon by influenza A2 Hong Kong Virus and inhibit interference between influenza A2 virus and vesicular stomatitis virus in chick embryo fibroblasts. Adenoviruses treated with trypsin, fibrantigen, and hexone-antigen no longer have this capacity. There is a good direct correlation between the cytotoxic, anti-interference, and anti-interferon-inducing capacities of the above-mentioned strains of adenoviruses. None of these strains stimulates reproduction of vesicular stomatitis virus. It is postulated that anti-interference is due not only to inhibition of interferon production but also to reduction of the activity of previously produced interferon.

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USSR

AKSENOV, O. A., et al., Voprosy Virusologii, No 3, May/Jun 1973, pp 345-350

(Poly-G)·(poly-C) produced less interferon than did (poly-I)·(poly-C) (160-320 vs. 640-1,280 units/ml). The complex protected mice from lethal doses of AO/PR8 influenza virus, though (poly-I)·(poly-C) was somewhat more effective. (Poly-G)·(poly-C) was most effective when administered within 1 day of infection, while (poly-I)·(poly-C) was most effective when administered 2-3 days prior to the virus. The protective effect was higher for complex produced at 20°C than for that produced at 100°C. (Poly-G)·(poly-C) was nontoxic to white mice even at maximum dose (50 mg/kg), while (poly-I)·(poly-C) was 50 percent lethal at 10-15 mg/kg. Though (poly-G)·(poly-C) was found to be generally less effective than (poly-I)·(poly-C), its lower toxicity makes it a preferable antiviral agent.

2/2

USSR

UDC 615.281.8:547.963.32

AKSENOV, O. A., TIMKOVSKIY, A. L., AGEYEVA, O. N., KOGAN, E. M., BRESLER, S. Ye., SMORODINTSEV, Al. A., and TIKHOMIROVA-SIDOROVA, N. S., All-Union Scientific Research Influenza Institute, Ministry of Public Health USSR, Institute of Nuclear Physics, Academy of Sciences USSR, and Institute of High Molecular Weight Compounds, Academy of Sciences USSR, Leningrad

"Interferonogenic and Antiviral Activity of Double-Stranded Polyriboguanilic and Polyribocytidylic Acid Complex"

Moscow, Voprosy Virusologii, No 3, May/Jun 1973, pp 345-350

Abstract: The interferonogenic and antiviral activity and toxicity of (poly-G)·(poly-C) complexes produced by two methods were compared with those of (poly-I)·(poly-C). Stable complexes were formed both by adding NaCl (0.1M) to an equimolar solution of poly-G and poly-C in 0.005M sodium phosphate buffer (pH 7.4) at 20°C, and by heating the polynucleotide mixture in the same buffer for 10 min at 100°C with subsequent slow cooling. Success of the first method, not encountered in other papers, is probably due to careful purification of the polynucleotides. The double-strand complex stimulated maximum interferon formation in white mice 2-4 hours after intravenous injection. Interferon disappeared after 10-12 hours.

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USSR

TIMKOVSKIY, A. L., et al., Voprosy Virusologii, No 3, May/Jun 1973, pp
350-355

(poly-I)·(poly-C). Activity also depended directly on precursor molecular weight, disappearing at 30,000-40,000 daltons. It is suggested that molecular weight is more important than nucleotide composition to antiviral and interferonogenic activity. Thus although the mechanism of action of both complexes remains to be clarified, apparently it is identical for both and depends directly on complex molecular weight and precursor purity.

2/2

USSR

UDC 615.281.8:547.963.32

TIMKOVSKIY, A. L., AKSENOV, O. A., BRESLER, S. Ye., KOGAN, E. M., SMORODINTSEV, Al. A., and TIKHOMIROVA-SIDOROVA, N. S., Institute of Nuclear Physics, Academy of Sciences USSR, Institute of High Molecular Weight Compounds, Academy of Sciences USSR, and All-Union Scientific Research Influenza Institute, Ministry of Public Health USSR, Leningrad

"Molecular Weight Characteristics of the Polyriboguanilic-Polyribocytidylic Acid Complex and Their Relation to Antiviral and Interferonogenic Activity"

Moscow, Voprosy Virusologii, No 3, May/Jun 1973, pp 350-355

Abstract: Molecular weight characteristics and immunological activity of (poly-G)·(poly-C) were studied in comparison to those of (poly-I)·(poly-C) to determine the reasons for variations in the compound's immunological activity. It was found through gel chromatography that the molecular weight of the complex depended directly on the quantity of oligonucleotide impurities within either of the precursors, poly-G acid or poly-C acid. While impure precursors produce a complex with molecular weight 300,000-500,000 daltons, purification of both results in molecular weight close to that of (poly-I)·(poly-C) (over $1 \cdot 10^6$ daltons). Antiviral activity of the purified complex in white mice was practically identical to that of 1/2

USSR

UDC 621.791.856.3:546.821

ISHTYKOV, Yu. V., KAZAKOV, Yu. V., and AKSENOV, N. A. (Kuybushev)

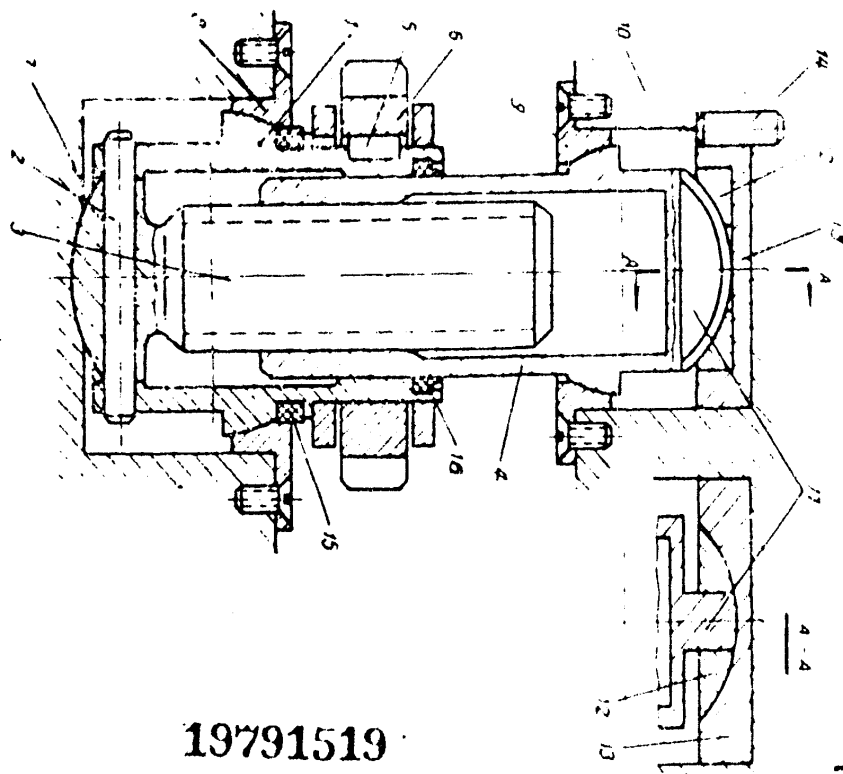
"Tungsten-Arc Welding of Titanium at Reduced Gas Pressure in the Chamber"

Kiev, Avtomaticheskaya svarka, No 3, Mar 72, pp 42-43

Abstract: The extremely large amounts of argon consumed by arc welding in a controlled atmosphere can be reduced by lowering the pressure in the chamber. According to calculations, a decrease in pressure to 10-20 mm Hg reduces the argon rate to a fraction. This promotes degassing of the weldpool and removal of oxides and contaminants both from the surface and the inner layers of the metal, which eventually results in a higher quality of welds. Tungsten-arc welding entails certain difficulties related to arc-striking and arcing in a low-pressure chamber. Described here is an experiment involving tungsten-arc pulsed and continuous welding of OT4 titanium alloy in a controlled atmosphere at pressures of 760-1 mm Hg. The process is shown to be economically effective for automatic welding. Curves are shown to demonstrate the effect of the arc length on both welding current and arc voltage at various argon pressures in the chamber. (3 illustrations, 2 tables, 2 bibliographic references)

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of the running screw, and with a spherical head with a double-cylinder supporting endface projection on the other end, connected to a cylindrical sector of the footstep bearing for the upper support. This enables the rod to rock about mutually perpendicular axes without rotating round the vertical axis. Seals are fitted where the cap joins the body and the body joins the rod. This prevents the running screw bending and increases the resistance to wear of the threaded joint in operation in dusty conditions.

30.1.67. as 1130713/24-11, AKSENOV, L.M.
(16.9.69) Bul. 6/24.1.69. Class 35d, Int. Cl. B 66f.

2/3

19791518

AA0047854-1

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-70

235949 SCREW JACK for raising moving parts in
guides, with hand drive, comprises body

with running screw, threaded rod, lower and upper
supports and ratchet reversing mechanism. The
support surface of the lower support is spherical.
The body is pivoted to the running screw by an
axis, is able to turn, and has a spherical surface
in contact with the spherical surface of a pressure
cap. The threaded rod is made hollow, with an
internal thread on one end engaged with the thread

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USSR.

AKSENOV, V. M., et al., Moscow, *Trudy Vsesoyuznogo nauchno-issledovatskogo tsentra*, pp 97-101

causative agent. The second wave was attributed to the same agent. A peculiar virus - an reoplaxid in certain cases - of a complex structure - was also isolated during the epidemic. However, the absence of antibodies in both children and adults (children) and it did not play an etiological role in the outbreak.

USSR

UDC 616.921.9-036.22(573.51)61.02-112

AKSENOV, V. A., ORLOVA, K. N., SELISOVKIN, D. A., ZAKHAROV, T. A.,
ZORIN, V. S., VOLOSHENOV, A. D., GLADINA, YE. S., ZAKHAROV, M. D.,
ZAKHAROV, L. A., and YEVOSTIGNEYEVA, N. N., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Ministry
of Health USSR.

"Some Features of the 1966-1967 Influenza Epidemic in the USSR"

Moscow, Voprosy Virusologii, No 1, 1970, pp 97-101

Abstract: This epidemic occurred in two waves: the first in September-December, 1966, when few cases of influenza of other types and respiratory diseases were reported in most of the USSR and its adjacent countries, and the second in February, 1967. The first wave affected mostly young children, while the second wave affected children and adults to almost the same degree, 15% and 10% per 100 persons. The course of the disease was severe among children and relatively mild among adults. The high incidence of influenza in the first wave, characteristic dynamics of the curve with a sharp rise, quick attainment of a peak, and sharp drop, as well as the results of serological examination, influenza and A₁ virus in the